Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Date of Policy Interventions by State

State	School Closure	Gathering Ban	Stay at Home Order	Business Closure	Restaurant Closure
Alabama	3/19/20	3/27/20	4/3/20	3/27/20	3/19/20
Alaska	3/16/20	3/24/20	3/28/20	3/28/20	3/18/20
Arizona	3/16/20	3/16/20	3/31/20	3/31/20	3/31/20
Arkansas	3/17/20	3/26/20			3/19/20
California	3/19/20	3/16/20	3/19/20	3/19/20	3/16/20
Colorado	3/23/20	3/19/20	3/26/20	3/26/20	3/17/20
Connecticut	3/17/20	3/26/20	3/23/20	3/23/20	3/16/20
Delaware	3/16/20	3/24/20	3/24/20	3/24/20	3/16/20
Florida	3/17/20	4/3/20	4/3/20	4/3/20	3/20/20
Georgia	3/18/20	3/24/20	4/3/20	4/3/20	4/3/20
Hawaii	3/16/20	3/17/20	3/25/20	3/25/20	3/17/20
Idaho	3/23/20	3/19/20	3/25/20	3/25/20	3/25/20
Illinois	3/17/20	3/21/20	3/21/20	3/21/20	3/16/20
Indiana	3/19/20	3/23/20	3/24/20	3/23/20	3/16/20
Iowa	3/16/20	3/17/20		3/26/20	3/17/20
Kansas	3/17/20	3/24/20	3/28/20	3/28/20	3/28/20
Kentucky	3/16/20	3/26/20	3/26/20	3/26/20	3/16/20
Louisiana	3/13/20	3/23/20	3/23/20	3/23/20	3/16/20
Maine	3/15/20	3/18/20	4/1/20	3/25/20	3/18/20
Maryland	3/16/20	3/19/20	3/30/20	3/23/20	3/16/20
Massachusetts	3/16/20	3/24/20	3/24/20	3/24/20	3/17/20
Michigan	3/16/20	3/24/20	3/24/20	3/24/20	3/16/20
Minnesota	3/18/20	3/27/20	3/27/20	3/27/20	3/17/20
Mississippi	3/19/20	3/24/20	4/3/20	3/24/20	4/3/20
Missouri	3/23/20	3/23/20	4/6/20		
Montana	3/16/20	3/24/20	3/26/20	3/26/20	3/20/20
Nebraska	3/16/20	4/3/20			3/19/20
Nevada	3/15/20	3/24/20	3/31/20	3/20/20	3/20/20
New Hampshire	3/16/20	3/23/20	3/27/20	3/27/20	3/16/20
New Jersey	3/18/20	3/21/20	3/21/20	3/21/20	3/21/20
New Mexico	3/16/20	3/19/20	3/23/20	3/23/20	3/19/20
New York	3/18/20	3/23/20	3/22/20	3/22/20	3/16/20
North Carolina	3/16/20	3/30/20	3/30/20	3/30/20	3/17/20
North Dakota	3/16/20	3/30/20			3/20/20
Ohio	3/17/20	3/23/20	3/23/20	3/23/20	3/15/20
Oklahoma	3/17/20	3/17/20			3/25/20
Oregon	3/16/20	3/23/20	3/23/20		3/17/20
Pennsylvania	3/16/20	3/17/20	4/1/20	3/19/20	3/16/20

Rhode Island	3/23/20	3/22/20	3/28/20	3/28/20	3/16/20
South Carolina	3/15/20	3/23/20	4/6/20	3/31/20	3/17/20
South Dakota	3/16/20	3/23/20			
Tennessee	3/20/20	3/23/20	3/31/20	3/31/20	3/23/20
Texas	3/19/20	3/19/20	3/31/20	4/2/20	3/20/20
Utah	3/16/20	3/18/20	3/27/20		3/18/20
Vermont	3/18/20	3/21/20	3/25/20	3/25/20	3/17/20
Virginia	3/16/20	3/24/20	3/30/20		3/24/20
Washington	3/17/20	3/23/20	3/23/20	3/25/20	3/16/20
West Virginia	3/16/20	3/16/20	3/24/20	3/24/20	3/17/20
Wisconsin	3/18/20	3/17/20	3/25/20	3/25/20	3/17/20
Wyoming	3/19/20	3/20/20			3/19/20

Notes: Blank spaces indicate the policy was never enacted.

eTable 2. Analysis of Collider Variables in State-Level Policies

	Logged Cumulative Incidence on Day 60			
	Individual	Combined	Individual, With State-Level Controls	Combined, With State-Level Controls
Businesses Closed	0.312	0.527	0.244	0.198
	(0.292)	(0.426)	(0.270)	(0.382)
Stay at Home Ordered	0.106	-0.257	0.0809	-0.0706
	(0.340)	(0.458)	(0.367)	(0.480)
Restaurants Closed	0.00571	-0.337	0.516	0.390
	(0.603)	(0.666)	(0.481)	(0.552)
	Logged Cumulative Death on Day 60			
	Individual	Combined	Individual, With State-Level Controls	Combined, With State-Level Controls
Businesses Closed	1.033***	0.918*	0.480	0.119
	(0.375)	(0.546)	(0.324)	(0.453)
Stay at Home Ordered	0.991**	0.336	0.608	0.522
	(0.442)	(0.588)	(0.436)	(0.569)
Restaurants Closed	0.499	-0.392	0.729	0.665
	(0.820)	(0.854)	(0.584)	(0.654)

Notes: Standard errors in parentheses. *(**)[***] indicates statistically significant at the .10(.05)[.01] level. Columns labeled "individual" denote three separate regressions, each containing one of the policy variables. Columns labeled "Combined" denote a single multivariate regression including all three policies. Models with state-level controls include natural log population, percent of the population under 15, percent of the population over 65, percent of the population in nursing facilities, quartile of cumulative incidence growth in the first 10 days of the study period, state-level social vulnerability index, daily testing per 1,000 population, rate of obesity, and urban density.

eTable 3. Association Between Logged 7-Day Rolling Mean Daily Outcomes and School Closure, Gathering Bans, and Behavioral Change at State Level, Using Shortened Study Period (45 Days After Date of 0.5 Cases per 1000)

	OLS Models				Prais-Winsten Models			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Daily Incidence								
Days Into Study Period	-0.130***	-0.0911***		-0.0385***	3.371***	2.053***	2.108***	1.228***
	(0.00394)	(0.00502)		(0.00773)	(0.325)	(0.262)	(0.217)	(0.192)
Days Since School Closure (14 day lag)		-0.0468***		-0.0276***	-0.0903***	-0.0862***		-0.0212**
		(0.00389)		(0.00440)	(0.00700)	(0.00731)		(0.0103)
Days Since Gathering Ban (14 day lag)			-0.149***	-0.0843***		-0.0151**		-0.0120*
			(0.00408)	(0.00954)		(0.00689)		(0.00660)
Days Since 15% Reduction in Time Spent at Work (14 day lag)	-0.130***	-0.0911***		-0.0385***			-0.108***	-0.0897***
	(0.00394)	(0.00502)		(0.00773)			(0.00681)	(0.00994)
Observations	2,250	2,250	2,250	2,250	2,200	2,200	2,200	2,200
R-squared	0.728	0.744	0.746	0.753	0.361	0.364	0.378	0.382

Daily Death Rate								
Days Into Study Period	0.158***	0.156***	0.167***	0.165***	0.164***	0.164***	0.172***	0.171***
	(0.00300)	(0.00299)	(0.00317)	(0.00328)	(0.00688)	(0.00683)	(0.00718)	(0.00721)
Days Since School Closure (21 day lag)	-0.147***	-0.120***		-0.0532***	-0.152***	-0.120***		-0.0389**
	(0.00559)	(0.00767)		(0.0132)	(0.0112)	(0.0179)		(0.0189)
Days Since Gathering Ban (21 day lag)		-0.0373***		-0.0154*		-0.0428**		-0.0268
		(0.00714)		(0.00792)		(0.0177)		(0.0183)
Days Since 15% Reduction in Time Spent at Work (21 day lag)			-0.156***	-0.0933***			-0.159***	-0.103***
			(0.00567)	(0.0151)			(0.0113)	(0.0187)
Observations	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
R-squared	0.739	0.742	0.744	0.747	0.413	0.419	0.426	0.428

Notes: Standard errors in parentheses. *(**)[***] indicates statistically significant at the .10(.05)[.01] level. All models additionally control for natural log population, percent of the population under 15, percent of the population over 65, percent of the population in nursing facilities, quartile of cumulative incidence growth in the first 10 days of the study period, state-level social vulnerability index, daily testing per 1,000 population, rate of obesity, and urban density.

eTable 4. Association Between Logged 7-Day Rolling Mean Daily Outcomes and School Closure, Gathering Bans, and Behavioral Change at State Level, Using Lengthened Study Period (10 Days Before Through 60 Days After Date of 0.5 Cases per 1000)

	OLS Models				Prais-Winsten Models			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Daily Incidence								
Days Into Study Period	0.215***	0.212***	0.229***	0.227***	-0.239***	-0.191***		-0.0602***
	(0.00204)	(0.00203)	(0.00207)	(0.00218)	(0.00795)	(0.00987)		(0.0118)
Days Since School Closure (14 day lag)	-0.206***	-0.167***		-0.0546***		-0.0546***		-0.0312***
	(0.00323)	(0.00495)		(0.00839)		(0.00574)		(0.00526)
Days Since Gathering Ban (14 day lag)		-0.0428***		-0.00672			-0.248***	-0.163***
		(0.00408)		(0.00452)			(0.00784)	(0.0127)
Days Since 15% Reduction in Time Spent at Work (14 day lag)			-0.222***	-0.162***	-0.239***	-0.191***		-0.0602***
			(0.00321)	(0.01000)	(0.00795)	(0.00987)		(0.0118)
Observations	3,550	3,550	3,550	3,550	3,550	3,550	3,550	3,550
R-squared	0.833	0.838	0.847	0.849	0.373	0.380	0.402	0.404

Daily Death Rate								
Days Into Study Period	0.150***	0.148***	0.156***	0.152***	0.131***	0.131***	0.135***	0.134***
	(0.00191)	(0.00190)	(0.00197)	(0.00203)	(0.00542)	(0.00536)	(0.00564)	(0.00563)
Days Since School Closure (21 day lag)	-0.152***	-0.107***		-0.0618***	-0.130***	-0.0869***		-0.0309*
	(0.00358)	(0.00588)		(0.0108)	(0.00906)	(0.0183)		(0.0186)
Days Since Gathering Ban (21 day lag)		-0.0508***		-0.0369***		-0.0503***		-0.0405**
		(0.00526)		(0.00594)		(0.0181)		(0.0190)
Days Since 15% Reduction in Time Spent at Work (21 day lag)			-0.157***	-0.0619***			-0.132***	-0.0682***
			(0.00362)	(0.0125)			(0.00917)	(0.0179)
Observations	3,550	3,550	3,550	3,550	3,550	3,550	3,550	3,550
R-squared	0.784	0.790	0.787	0.791	0.295	0.305	0.299	0.307

Notes: Standard errors in parentheses. *(**)[***] indicates statistically significant at the .10(.05)[.01] level. All models additionally control for natural log population, percent of the population under 15, percent of the population over 65, percent of the population in nursing facilities, quartile of cumulative incidence growth in the first 10 days of the study period, state-level social vulnerability index, daily testing per 1,000 population, rate of obesity, and urban density.

eTable 5. Model Selection Results

Logged 7-Day Average Incidence						
	Optimal Lag Period				Selected for	
Behavior Variable Tested	School Closure	Gathering Ban	Behavior Variable	BIC	Model?	Notes
5% Increase in Time at Home	15 days	16 days	15 days	6539.8	No	Sign is + and significant when using other all thresholds (10 and 15%)
10% Increase in Time at Home	12 days	11 days	11 days	6554.9	No	Behavior sign is + and significant
15% Reduction in Time at Work	15 days	16 days	15 days	6571.8	Yes	All 14 day lags is next-best BIC (6573.5); Use this instead
15% Increase in Time at Home	15 days	15 days	16 days	6573.4	No	Behavior sign is + and significant
25% Reduction in Time at Work	13 days	14 days	14 days	6603.8	No	
20% Reduction in Time at Work	14 days	14 days	13 days	6624.5	No	
33% Reduction in Time at Work	14 days	13 days	13 days	6625.7	No	
30% Hand Sanitizer Searches	15 days	15 days	16 days	6634.3	No	
20% Hand Sanitizer Searches	14 days	14 days	13 days	6637.9	No	
25% Hand Sanitizer Searches	14 days	14 days	13 days	6638.4	No	
Logged 7-Day Average Death Rate						
	Optimal Lag Period				Selected for	
Behavior Variable Tested	School Closure	Gathering Ban	Behavior Variable	BIC	Model?	Notes
15% Increase in Time at Home	21 days	22 days	22 days	8410.2	No	Behavior sign is + and significant
5% Increase in Time at Home	22 days	22 days	21 days	8492.9	No	Sign is + and significant when using all other thresholds (10 and 15%)
15% Reduction in Time at Work	21 days	22 days	21 days	8522.9	Yes	All 21 day lags is next-best BIC (8524.6); Use this instead
33% Reduction in Time at Work	18 days	18 days	17 days	8527.7	No	
20% Hand Sanitizer Searches	40 days	39 days	39 days	8549.8	No	
10% Increase in Time at Home	16 days	16 days	15 days	8562.8	No	
30% Hand Sanitizer Searches	21 days	22 days	22 days	8571.1	No	
25% Reduction in Time at Work	20 days	20 days	20 days	8573.6	No	
25% Hand Sanitizer Searches	19 days	20 days	19 days	8573.8	No	
20% Reduction in Time at Work	20 days	20 days	19 days	8575.5	No	

Notes: This table shows the results of the model selection process used to choose lag periods and behavior variables for the model. The objective of the analysis was to use the Bayesian Information Criterion (BIC) from all iterations of the full OLS model to guide selection. We ruled out specifications where any of the OLS or prais models would have theoretically implausible coefficients (any of the policies or behavior variables are positive and significant). We attribute these as instances of misspecification, since social distancing measures and policies are known to reduce the spread of COVID-19. We did not select the 5% increase in time spent at home, since all other specifications of this variable (10% and 15% thresholds) had uninterpretable coefficients. After ruling this out, the 15% time reduction in work performed the best across the two outcomes. We used the lag periods with the second best BIC (14 days for incidence and 21 days for deaths) since they were harmonized across all controls , and fell on the exact week period.

eTable 6. Description of COVID-19–Related Behavioral Variables

Variable	Number	Mean	Std. Dev.	Inter-Quartile Range	Min	Max
Google searches for "hand sanitizer", percent of state maximum	3,000	24.46	11.32	15.57, 32.14	8.86	83.14
Change in restaurant diners since same date last year (%)	2,160	-98.25	5.20	-100.00, -99.87	-100.00	-43.71
Change in time at work since baseline (%)	3,000	-40.00	7.92	-45.43, -34.86	-60.00	-5.14
Change in time at home since baseline (%)	3,000	15.40	3.74	12.86, 18.00	-1.86	26.00

Note: all variables are 7-day moving averages. "Number" refers to the total number of state-day combinations within the study period (see main text for definition) for which data are available. All other columns refer to descriptive statistics for the variable across 7-day moving averages of these state-day combinations. The Min and Max for these 7-day averages are weakly greater than and less than, respectively, the individual state-day min and max.

eTable 7. Pandemic and Policy Characteristics of States Over Study Period

	Study Period Beginning	Growth Rate in Incidence Over Days 1-10	Cumulative Incidence per 100,000		Cumulative Death per 100,000		Number of Days Into Study Period Event Occurs		
			Day 0	Day 60	Day 0	Day 60	School Closure	Gathering Ban	15%+ Reduction in Time-at-Work
Quartile 1									
California	3/11/20	664%	0.52	173.83	0.01	7.07	8	5	4
Hawaii	3/16/20	960%	0.70	44.16	0	1.20	0	1	1
Iowa	3/12/20	463%	0.51	394.99	0	8.65	4	5	5
Kentucky	3/17/20	1,062%	0.59	175.06	0.02	7.79	-1	9	0
Massachusetts	3/9/20	700%	0.60	1,102.94	0	68.84	7	15	6
Minnesota	3/15/20	726%	0.63	243.21	0	12.16	3	12	1
Montana	3/14/20	750%	0.58	44.35	0	1.54	2	10	2
Nebraska	3/11/20	292%	0.68	436.70	0	5.09	5	23	6
New Mexico	3/14/20	669%	0.62	256.35	0	11.04	2	5	2
Oregon	3/12/20	437%	0.73	80.50	0	3.18	4	11	3
Rhode Island	3/13/20	430%	1.89	1,099.18	0	42.02	10	9	3
South Dakota	3/10/20	180%	0.58	392.58	0.12	3.93	6	13	7
Virginia	3/15/20	767%	0.53	330.57	0.01	11.35	1	9	0
Quartile 2									
Alaska	3/17/20	1,317%	0.81	53.08	0	1.08	-1	7	1
Colorado	3/11/20	1,297%	0.61	354.27	0	17.52	12	8	4
Kansas	3/17/20	1,153%	0.58	277.06	0.03	6.50	0	7	-1
Maryland	3/15/20	1,222%	0.53	600.01	0	31.08	1	4	0
Maine	3/15/20	1,083%	0.90	117.42	0	5.17	0	3	2
North Dakota	3/17/20	1,260%	0.66	245.68	0	5.58	-1	13	1
Nevada	3/13/20	1,295%	0.65	215.92	0	10.98	2	11	3
Oklahoma	3/18/20	1,200%	0.74	135.52	0	7.35	-1	-1	-2
Utah	3/14/20	1,324%	0.69	217.51	0	2.50	2	4	1
Washington	3/04/20	1,196%	0.64	218.57	0.15	11.52	13	19	10
West Virginia	3/21/20	1,250%	0.66	85.67	0	3.77	-5	-5	-4
Wyoming	3/14/20	1,133%	0.52	118.25	0	1.20	5	6	3
Quartile 3									
Alabama	3/16/20	1,755%	0.60	233.79	0	9.93	3	11	2
Arkansas	3/15/20	1,819%	0.53	145.99	0	3.28	2	11	2
Delaware	3/15/20	1,600%	0.74	760.72	0	27.38	1	9	1
Florida	3/15/20	1,708%	0.53	209.74	0.01	9.10	2	19	1
Georgia	3/14/20	1,585%	0.63	328.88	0.01	14.51	4	10	2
North Carolina	3/18/20	1,373%	0.65	182.53	0	6.69	-2	12	-1
New Hampshire	3/13/20	1,343%	0.52	241.06	0	10.57	3	10	3
Ohio	3/16/20	1,607%	0.58	236.01	0	13.83	0	6	-1
Pennsylvania	3/15/20	1,593%	0.53	493.76	0	33.60	1	2	0
South Carolina	3/15/20	1,418%	0.56	165.24	0	7.49	0	8	3
Texas	3/18/20	1,334%	0.60	175.10	0.01	4.86	1	1	-3
Vermont	3/14/20	1,800%	0.80	148.65	0	8.48	4	7	2
Wisconsin	3/15/20	1,788%	0.57	195.21	0	7.51	3	2	2

Quartile 4									
Arizona	3/19/20	1,879%	0.68	203.98	0	9.88	-3	-3	-3
Connecticut	3/14/20	2,990%	0.56	973.19	0	87.25	3	12	1
Idaho	3/17/20	2,478%	0.53	143.32	0	4.33	6	2	0
Illinois	3/14/20	2,226%	0.51	661.97	0	29.75	3	7	2
Indiana	3/18/20	3,077%	0.59	428.16	0.03	26.38	1	5	-1
Louisiana	3/13/20	3,156%	0.77	688.65	0	50.33	0	10	4
Michigan	3/15/20	4,226%	0.53	497.00	0	48.07	1	9	1
Missouri	3/19/20	2,477%	0.57	184.32	0.02	10.00	4	4	-2
Mississippi	3/17/20	2,657%	0.70	372.16	0	17.60	2	7	1
New Jersey	3/13/20	5,588%	0.56	1,584.61	0.01	107.05	5	8	2
New York	3/8/20	2,152%	0.54	1,697.03	0	133.58	10	15	7
Tennessee	3/15/20	1,967%	0.59	249.40	0	4.27	5	8	2

Notes: Quartiles are determined based on cumulative incidence growth rate over first 10 days of study period.

eTable 8. State-Level Characteristics Used as Controls

	Percent of Population:			SVI	% Obesity	Urban Density (pop. per sq. mile)	Testing Rate on Day 60 (per 1,000)
	< 15	> 65	Nursing Facilities				
Alabama	18.60%	15.70%	4.60%	61.8	36.20%	50-100	19
Alaska	21.20%	10.50%	0.80%	45.9	29.50%	<50	29.2
Arizona	19.50%	16.50%	1.60%	72.1	29.50%	50-100	11.7
Arkansas	19.60%	15.70%	5.80%	65.5	37.10%	<50	17.7
California	19.30%	13.30%	2.60%	65.4	25.80%	>150	18.3
Colorado	19.00%	13.10%	2.90%	33	23.00%	<50	14.4
Connecticut	17.00%	15.80%	6.30%	42.6	27.40%	>150	28.6
Delaware	17.80%	17.20%	4.40%	44.7	33.50%	>150	25
Florida	16.60%	19.40%	3.50%	60.7	30.70%	>150	20.8
Georgia	20.10%	12.80%	3.20%	57.3	32.50%	100-150	17
Hawaii	18.20%	17.10%	2.40%	46.9	24.90%	100-150	23.2
Idaho	21.60%	14.80%	2.00%	38.9	28.40%	<50	17.7
Illinois	18.80%	14.30%	5.20%	48.6	31.80%	>150	24.9
Indiana	19.60%	14.40%	5.80%	47.3	34.10%	100-150	16.4
Iowa	19.40%	15.60%	7.50%	29.1	35.30%	<50	17
Kansas	20.50%	14.50%	5.00%	38.6	34.40%	<50	12.6
Kentucky	18.90%	15.10%	5.10%	55.8	36.60%	50-100	13
Louisiana	19.80%	13.90%	5.60%	72	36.80%	50-100	37.8
Maine	15.60%	19.00%	4.50%	39.1	30.40%	<50	15.6
Maryland	18.60%	14.20%	4.10%	29.5	30.90%	>150	22.1
Massachusetts	16.50%	15.20%	5.70%	40.1	25.70%	>150	46.1
Michigan	18.10%	15.90%	3.80%	45.6	33.00%	50-100	24.5
Minnesota	18.20%	17.20%	4.00%	26.2	26.90%	<50	14.4
Mississippi	20.00%	14.50%	5.30%	74.1	39.50%	<50	26
Missouri	18.80%	15.50%	6.20%	41.1	35.00%	50-100	13.6
Montana	19.50%	14.60%	4.50%	27.8	30.10%	<50	16.8
Nebraska	20.80%	14.40%	6.00%	33.7	34.10%	<50	16.4
Nevada	19.20%	14.80%	1.80%	20.1	29.50%	<50	15.5
New Hampshire	15.80%	16.50%	4.80%	13.8	29.60%	50-100	21.3
New Jersey	18.30%	15.00%	5.00%	44.4	25.70%	>150	31
New Mexico	19.60%	16.00%	2.70%	77.2	32.30%	<50	35.8
New York	17.50%	15.10%	5.20%	54.5	27.60%	>150	50.3
North Carolina	18.70%	15.10%	3.50%	58.5	33.00%	100-150	14.2
North Dakota	19.60%	13.90%	7.40%	68.9	35.10%	<50	44.3
Ohio	18.50%	15.60%	6.30%	44.5	34.00%	>150	12.9
Oklahoma	20.40%	14.60%	4.70%	62.6	34.80%	<50	16.3
Oregon	17.60%	16.50%	1.80%	52.5	29.90%	<50	15.2
Pennsylvania	17.20%	16.80%	6.00%	41.1	30.90%	>150	18.8
Rhode Island	16.20%	15.70%	7.40%	51	27.70%	>150	61.5
South Carolina	18.40%	16.40%	3.40%	61.8	34.30%	100-150	13
South Dakota	20.80%	15.10%	6.90%	32.6	30.10%	<50	21.3
Tennessee	18.70%	15.30%	4.00%	52.8	34.40%	100-150	30.8
Texas	21.80%	11.60%	3.30%	65.2	34.80%	50-100	14
Utah	25.30%	10.30%	1.70%	30.2	27.80%	<50	40.1
Vermont	15.40%	17.80%	3.90%	20.1	27.50%	<50	26.4
Virginia	18.40%	14.30%	3.30%	34.4	30.40%	100-150	12.9
Washington	18.70%	14.50%	2.20%	41.9	28.70%	50-100	29.3
West Virginia	16.90%	18.30%	5.10%	51.5	39.50%	<50	28.2
Wisconsin	18.40%	15.60%	4.20%	30.5	32.00%	50-100	15.1
Wyoming	19.90%	14.70%	4.20%	27.8	29.00%	<50	17.6

eTable 9. Association Between Logged 7-Day Rolling Mean COVID-19 Incidence and School Closure, Gathering Bans, and Behavioral Change at State Level

	OLS Models				Prais-Winsten Models			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Regressors of Interest								
Days Into Study Period	0.141***	0.137***	0.161***	0.153***	0.165***	0.165***	0.173***	0.174***
	(0.00307)	(0.00300)	(0.00334)	(0.00352)	(0.00494)	(0.00490)	(0.00512)	(0.00512)
Days Since School Closure (14 day lag)	-0.131***	-0.0884***		-0.0426***	-0.158***	-0.114***		-0.0362***
	(0.00375)	(0.00493)		(0.00748)	(0.00533)	(0.00713)		(0.0103)
Days Since Gathering Ban (14 day lag)		-0.0451***		-0.0280***		-0.0515***		-0.0401***
		(0.00349)		(0.00404)		(0.00560)		(0.00521)
Days Since 15% Reduction in Time Spent at Work (14 day lag)			-0.151***	-0.0772***			-0.166***	-0.0975***
			(0.00398)	(0.00954)			(0.00551)	(0.00990)
Additional Controls								
Population (logged)	-0.0138	0.00754	0.0542***	0.0341*	-0.00547	0.00350	0.0529	0.0340
	(0.0199)	(0.0195)	(0.0195)	(0.0195)	(0.146)	(0.141)	(0.146)	(0.142)
% Population Under 15	-0.0464***	-0.0303**	-0.0513***	-0.0366**	0.0209	0.0312	0.00793	0.0231
	(0.0155)	(0.0151)	(0.0151)	(0.0150)	(0.124)	(0.120)	(0.121)	(0.120)
% Population Over 65	-0.0895***	-0.0755***	-0.112***	-0.0890***	-0.0340	-0.0253	-0.0598	-0.0401
	(0.0144)	(0.0141)	(0.0140)	(0.0140)	(0.113)	(0.109)	(0.114)	(0.111)
% Nursing Population	0.135***	0.143***	0.153***	0.146***	0.0939	0.0972	0.115	0.107
	(0.0141)	(0.0137)	(0.0137)	(0.0136)	(0.101)	(0.0972)	(0.0979)	(0.0967)
Quartile of Cumulative Incidence Growth in First 10 days (Q1 Omitted)								
Quartile 2	0.471***	0.534***	0.493***	0.524***	0.432	0.498	0.451	0.497
	(0.0450)	(0.0441)	(0.0439)	(0.0436)	(0.322)	(0.310)	(0.308)	(0.306)
Quartile 3	0.286***	0.296***	0.385***	0.342***	0.143	0.157	0.220	0.198
	(0.0438)	(0.0427)	(0.0428)	(0.0426)	(0.333)	(0.323)	(0.320)	(0.319)
Quartile 4	0.775***	0.834***	0.941***	0.893***	0.439	0.501*	0.564*	0.559*
	(0.0424)	(0.0415)	(0.0413)	(0.0417)	(0.301)	(0.290)	(0.298)	(0.291)
Social Vulnerability Index	0.00571***	0.00635***	0.00503***	0.00562***	0.00117	0.00190	0.00120	0.00165
	(0.00129)	(0.00126)	(0.00126)	(0.00125)	(0.00832)	(0.00798)	(0.00803)	(0.00789)
Daily Testing Level (<10 per 1,000 population omitted)								
10-20 per 1,000	0.0138	0.00889	0.00468	0.0183	-0.00473	-0.00251	-0.00255	-0.000428
	(0.0488)	(0.0475)	(0.0475)	(0.0470)	(0.0155)	(0.0157)	(0.0155)	(0.0156)
>20 per 1,000	-0.200***	-0.157**	-0.232***	-0.164**	-0.0206	-0.0118	-0.0193	-0.0101
	(0.0668)	(0.0651)	(0.0646)	(0.0644)	(0.0231)	(0.0232)	(0.0231)	(0.0232)
Obesity Rate	0.0377***	0.0217***	0.0142**	0.0182***	0.0696	0.0582	0.0444	0.0480
	(0.00666)	(0.00660)	(0.00633)	(0.00654)	(0.0493)	(0.0469)	(0.0471)	(0.0464)
Urban Density (<50 per sq. mile omitted)								
50-100 per sq. mile	0.253***	0.270***	0.188***	0.232***	0.269	0.287	0.211	0.251
	(0.0488)	(0.0475)	(0.0475)	(0.0472)	(0.364)	(0.352)	(0.355)	(0.351)
100-150 per sq. mile	0.307***	0.269***	0.190***	0.231***	0.232	0.217	0.124	0.163
	(0.0530)	(0.0517)	(0.0514)	(0.0513)	(0.451)	(0.440)	(0.454)	(0.446)
>150 per sq. mile	0.942***	0.893***	0.862***	0.876***	0.649	0.623	0.557	0.580
	(0.0598)	(0.0583)	(0.0582)	(0.0577)	(0.475)	(0.456)	(0.447)	(0.447)
Constant	-1.265**	-1.690***	-1.366**	-1.769***	-4.404	-4.587	-3.968	-4.386
	(0.574)	(0.560)	(0.559)	(0.554)	(4.373)	(4.282)	(4.307)	(4.280)
Observations	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
R-squared	0.643	0.662	0.660	0.669	0.309	0.324	0.326	0.340

Notes: This Table reports the full results of Table 1 in the main paper.Standard errors in parentheses.
*(**)[***] indicates statistically significant at the .10(.05)[.01] level.

eTable 10. Association Between Logged 7-Day Rolling Mean COVID-19 Death Rate and School Closure, Gathering Bans, and Behavioral Change at State Level

	OLS Models				Prais-Winsten Models			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Regressors of Interest								
Days Into Study Period	0.153***	0.150***	0.166***	0.161***	0.165***	0.165***	0.172***	0.172***
	(0.00311)	(0.00308)	(0.00326)	(0.00340)	(0.00750)	(0.00743)	(0.00780)	(0.00784)
Days Since School Closure (21 day lag)	-0.153***	-0.107***		-0.0419***	-0.166***	-0.121***		-0.0394**
	(0.00439)	(0.00652)		(0.0110)	(0.0107)	(0.0189)		(0.0191)
Days Since Gathering Ban (21 day lag)		-0.0497***		-0.0278***		-0.0521***		-0.0372**
		(0.00534)		(0.00608)		(0.0178)		(0.0185)
Days Since 15% Reduction in Time Spent at Work (21 day lag)			-0.167***	-0.0971***			-0.173***	-0.103***
			(0.00452)	(0.0133)			(0.0109)	(0.0190)
Additional Controls								
Population (logged)	0.294***	0.310***	0.363***	0.344***	0.301*	0.313**	0.368**	0.348**
	(0.0272)	(0.0269)	(0.0269)	(0.0270)	(0.163)	(0.159)	(0.158)	(0.156)
% Population Under 15	-0.256***	-0.240***	-0.261***	-0.249***	-0.108	-0.0969	-0.123	-0.108
	(0.0211)	(0.0209)	(0.0207)	(0.0207)	(0.150)	(0.148)	(0.146)	(0.147)
% Population Over 65	-0.124***	-0.110***	-0.147***	-0.127***	-0.0496	-0.0387	-0.0787	-0.0575
	(0.0196)	(0.0194)	(0.0191)	(0.0193)	(0.131)	(0.129)	(0.128)	(0.129)
% Nursing Population	0.113***	0.118***	0.132***	0.125***	0.163	0.167	0.184	0.176
	(0.0191)	(0.0188)	(0.0187)	(0.0187)	(0.139)	(0.137)	(0.136)	(0.136)
Quartile of Cumulative Incidence Growth in First 10 days (Q1 Omitted)								
Quartile 2	0.461***	0.521***	0.470***	0.501***	0.399	0.465	0.412	0.457
	(0.0614)	(0.0608)	(0.0603)	(0.0604)	(0.333)	(0.325)	(0.324)	(0.322)
Quartile 3	0.312***	0.320***	0.405***	0.370***	0.00948	0.0250	0.107	0.0786
	(0.0598)	(0.0589)	(0.0588)	(0.0588)	(0.312)	(0.305)	(0.305)	(0.302)
Quartile 4	1.081***	1.137***	1.232***	1.197***	0.670**	0.737**	0.826***	0.811***
	(0.0578)	(0.0573)	(0.0567)	(0.0574)	(0.318)	(0.311)	(0.320)	(0.313)
Social Vulnerability Index	0.00929***	0.00991***	0.00863***	0.00914***	0.00982	0.0105	0.00949	0.0100
	(0.00176)	(0.00174)	(0.00173)	(0.00173)	(0.00896)	(0.00873)	(0.00872)	(0.00862)
Daily Testing Level (<10 per 1,000 population omitted)								
10-20 per 1,000	0.163**	0.122*	0.165**	0.151**	0.0553	0.0509	0.0575	0.0546
	(0.0664)	(0.0656)	(0.0652)	(0.0651)	(0.0479)	(0.0466)	(0.0467)	(0.0461)
>20 per 1,000	0.155*	0.146	0.152*	0.174*	0.0627	0.0640	0.0676	0.0697
	(0.0925)	(0.0912)	(0.0904)	(0.0905)	(0.0509)	(0.0499)	(0.0497)	(0.0494)
Obesity Rate	0.0410***	0.0270***	0.0164*	0.0203**	0.0412	0.0289	0.0139	0.0178
	(0.00891)	(0.00891)	(0.00864)	(0.00888)	(0.0575)	(0.0572)	(0.0553)	(0.0562)
Urban Density (<50 per sq. mile omitted)								
50-100 per sq. mile	0.212***	0.230***	0.145**	0.183***	0.489	0.504	0.413	0.455
	(0.0665)	(0.0656)	(0.0653)	(0.0653)	(0.363)	(0.354)	(0.353)	(0.351)
100-150 per sq. mile	-0.00383	-0.0360	-0.126*	-0.0885	0.213	0.187	0.0804	0.121
	(0.0720)	(0.0711)	(0.0706)	(0.0708)	(0.399)	(0.391)	(0.389)	(0.387)
>150 per sq. mile	0.518***	0.484***	0.428***	0.448***	0.622	0.591	0.516	0.542
	(0.0813)	(0.0803)	(0.0799)	(0.0797)	(0.434)	(0.419)	(0.409)	(0.408)
Constant	-5.922***	-6.288***	-5.952***	-6.282***	-10.41**	-10.68**	-9.962**	-10.41**
	(0.776)	(0.766)	(0.762)	(0.760)	(5.122)	(5.038)	(4.980)	(4.978)
Observations	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
R-squared	0.686	0.695	0.697	0.700	0.300	0.308	0.313	0.316

Notes: This Table reports the full results of Table 1 in the main paper. Standard errors in parentheses.
*(**)[***] indicates statistically significant at the .10(.05)[.01] level.

eFigure. Model Prediction Compared With Observed COVID-19 Outcomes